

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A node search method for searching for a service node for providing a service to a mobile node, in a mobile communication system including a plurality of service nodes and the mobile node, each of the service nodes and the mobile node having a node storage unit configured to store addresses of service nodes, the node search method comprising:

transmitting a node search packet for searching for the service node from a search node, which searches for the service node, to an address stored in the node storage unit of the search node[[],];

returning a node notice packet from at least one of a search packet reception node, which has received the node search packet, and a peripheral node other than the search packet reception node, to the search node, in response to the node search packet[[],];

detecting the service node based on ~~a basis of a~~ the returned node notice packet, by the search node[[],]; [[and]]

updating the node storage unit of the search node based on ~~a basis of a detected~~ the service node detected by the search node; and

transmitting to the detected service node, by the search node, data for investigating node information concerning the detected service node, the data for investigating node information including a request for a delay value and a number of hops in a packet transmission between the search node and the detected service node.

2. (Currently Amended) A node, comprising:

a node storage unit configured to store addresses of service nodes for providing a service to a mobile node;

a search packet creation unit configured to create a node search packet to be transmitted to an address stored in the node storage unit, in order to search for the service node;

a communication unit configured to ~~communicate~~, transmit the node search packet created by the search packet creation unit, and to receive a node notice packet returned from at least one of a search packet reception node, which has received the node search packet, and a peripheral node other than the search packet reception node in response to a transmitted node search packet;

a detection unit configured to detect the service node based on ~~a basis of~~ the node notice packet received by the communication unit; and

an update unit configured to update the node storage unit based on ~~a basis of~~ the service node detected by the detection unit,

wherein the communication unit is configured to transmit, to the detected service node, data for investigating node information concerning the detected service node, the data for investigating node information including a request for a delay value and a number of hops in a packet transmission between the search node and the detected service node.

3. (Currently Amended) The node of claim 2, further comprising:

a data creation unit configured to create the data for investigating node information concerning the service node detected by the detection unit, the data being transmitted to ~~[[a]]~~ the detected service node, wherein

the ~~[[data]]~~ node storage unit ~~stores~~ is configured to store the node information,

the communication unit ~~transmits~~ is configured to transmit the data created by the data creation unit, and ~~receives~~ to receive response data returned in response to the data by the detected service node, and

the update unit ~~updates~~ is configured to update the node storage unit based on ~~a basis~~
~~of a~~ the returned response data.

4. (Currently Amended) The node of claim 2, wherein
node information concerning the service node is included in the node notice packet,
the node storage unit ~~stores~~ is configured to store the node information, and
the update unit ~~updates~~ is configured to update the node storage unit based on ~~a basis~~
~~of a~~ the returned node notice packet.

5. (Currently Amended) The node of claim 3 ~~or~~ 4, wherein the node storage unit
~~stores~~ is configured to store the addresses of the service nodes and the node information
according to a predetermined criterion.

6. (Currently Amended) The node of claim 4, further comprising:
a determination unit configured to determine inter-node information between the
search node and the peripheral node according to inter-node information between the search
node and the search packet reception node and inter-node information between the search
packet reception node and the peripheral node based on ~~a basis~~ of the node notice packet,
wherein

the update unit ~~updates~~ is configured to update the node storage unit based on ~~a basis~~
~~of~~ the inter-node information between the search node and the peripheral node determined by
the determination unit.

7. (Currently Amended) The node of claim 2, further comprising:

a notice packet creation unit configured to create the node notice packet by accessing the node storage unit, wherein

the communication unit ~~transmits~~ is configured to transmit the node notice packet created by the notice packet creation unit.

8. (Currently Amended) The node of claim 7, wherein the notice packet creation unit ~~creates~~ is configured to create the node notice packet that is passed through the peripheral node.

9. (Currently Amended) The node of claim 7, wherein the notice packet creation unit ~~creates~~ is configured to create the node notice packet when the communication unit has received at least one of the node search packet, the node notice packet, and ~~[[a]]~~ the node notice request packet for requesting return of the node notice packet.

10. (Currently Amended) The node of claim 2, further comprising:
a request packet creation unit configured to create ~~[[a]]~~ the node notice request packet for requesting the peripheral node to return the node notice packet, wherein
the communication unit ~~transmits~~ is configured to transmit the node notice request packet created by the request packet creation unit.

11. (Currently Amended) The node of claim 10, wherein the request packet creation unit ~~creates~~ is configured to create the node notice request packet when the communication unit has received at least one of the node search packet, the node notice packet, and the node notice request packet.

12. (Currently Amended) The node of claim 2, further comprising:

a request packet creation unit configured to create a node registration request packet for requesting registration in [[a]] the node storage unit of another service node, wherein the communication unit ~~transmits~~ is configured transmit the node registration request packet created by the request packet creation unit.

13. (Currently Amended) The node of claim 2, wherein

the communication unit ~~receives a node~~ is configured to receive a node registration request packet for requesting registration in [[a]] the node storage unit of another service node, and

the update unit ~~updates~~ is configured to update the node storage unit based on a basis of the node registration request packet.

14. (Currently Amended) The node of claim 2, further comprising:

a selection criterion holding unit configured to hold a selection criterion for selecting a service node to be used; and

a selection unit configured to access the node storage unit and to select the service node to be used, based on a basis of the selection criterion held in the selection criterion holding unit.

15. (Currently Amended) A mobile communication system, comprising:

a search node configured to search for a service node for providing a service to a mobile node by transmitting a node search packet in order to search for the service node;

a search packet reception node configured to receive the node search packet transmitted from the search node; and

a peripheral node other than the search packet reception node,

wherein the search node ~~comprises:~~ includes

a node storage unit configured to store addresses of service nodes;

a search packet creation unit configured to create ~~[[a]]~~ the node search packet to be transmitted to an address stored in the node storage unit;

a communication unit configured to ~~communicate~~, transmit the node search packet created by the search packet creation unit, and to receive a node notice packet returned from at least one of the search packet reception node and the peripheral node in response to a transmitted node search packet;

a detection unit configured to detect the service node based on ~~a basis of~~ the node notice packet received by the communication unit; and

an update unit configured to update the node storage unit based on ~~a basis of~~ the service node detected by the detection unit,

wherein the communication unit is configured to transmit, to the detected service node, data for investigating node information concerning the detected service node, the data for investigating node information including a request for a delay value and a number of hops in a packet transmission between the search node and the detected service node.

16. (Currently Amended) A computer-readable storage medium, including computer executable instructions, wherein the instructions, when executed by a processor, cause the processor to function as a node and to perform a method, comprising: ~~A computer program product for causing a computer to function as a node, the computer program product comprising:~~

~~a first computer program code for causing the computer to store~~ storing addresses of service nodes for providing a service to a mobile node;

~~a second computer program code for causing the computer to create~~ creating a node search packet to be transmitted to a one of the stored addresses address, in order to search for the service node;

~~a third computer program code for causing the computer to communicate, transmit~~ communicating, transmitting the node search packet created[[,]] ~~and receive a~~

receiving the node notice packet returned from at least one of a search packet reception node, which has received the node search packet, and a peripheral node other than the search packet reception node in response to a transmitted node search packet;

~~a fourth computer program code for causing the computer to detect~~ detecting the service node based on a basis of the node notice packet received; [[and]]

~~a fifth computer program code for causing the computer to update~~ updating the addresses based on a basis of a the detected service node; and

transmitting to the detected service node, by the search node, data for investigating node information concerning the detected service node, the data for investigating node information including a request for a delay value and a number of hops in a packet transmission between the search node and the detected service node.